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## dNTP Sets & Mixes

CAT.#	SIZE	COMPONENTS	COMPONENT COMPOSITION
<b>100 mM dNTP Set</b>			
NUS0101	4 x 0.25 ml	0.25 ml - 100 mM dATP	Aqueous solution of 100 mM dATP, pH 8.5 (4°C) Aqueous solution of 100 mM dCTP, pH 8.5 (4°C) Aqueous solution of 100 mM dGTP, pH 8.5 (4°C) Aqueous solution of 100 mM dTTP, pH 8.5 (4°C)
		0.25 ml - 100 mM dCTP	
		0.25 ml - 100 mM dGTP	
		0.25 ml - 100 mM dTTP	
NUS0105	4 x 1 ml	1 ml - 100 mM dATP	Aqueous solution of 100 mM dATP, pH 8.5 (4°C) Aqueous solution of 100 mM dCTP, pH 8.5 (4°C) Aqueous solution of 100 mM dGTP, pH 8.5 (4°C) Aqueous solution of 100 mM dTTP, pH 8.5 (4°C)
		1 ml - 100 mM dCTP	
		1 ml - 100 mM dGTP	
		1 ml - 100 mM dTTP	
<b>dNTP Mixes:</b>			
NUM0101	1 ml	1 ml - 25 mM dNTP Mix	Aqueous solution of equal concentration of 25 mM each of 4 dNTPs, pH 8.5 (4°C)
NUM0201	1 ml	1 ml - 10 mM dNTP Mix	Aqueous solution of equal concentration of 10 mM each of 4 dNTPs, pH 8.5 (4°C)

**Storage** In the dark at -20°C.

### APPLICATIONS

- All molecular biology applications including dNTPs, like:
- cDNA synthesis
  - Standard PCR, Long and high-fidelity PCR
  - qPCR
  - Sequencing

### BENEFITS

- Highest quality, >99% HPLC pure dNTPs for high & reproducible yields
- Pure from DNA contamination and from PCR inhibitors
- Highly stable remain pure after weeks at room temperature, after 30 freezing thawing cycles and during the 40 PCR cycles
- Available in ready-to use mixes and sets for maximized flexibility

### PRODUCT DETAILS

highQu dNTP sets and mixes meet all highest industry standards and allow for unrivaled performance of your PCR and other DNA synthesis reactions.

Produced under the stringent quality monitoring conditions, they guaranty reproducible results. More than 99% HPLC purity eliminates inhibitions of PCR and allows for increased yields with higher dNTP concentrations.

Exceptional stability eliminates dNTP usability concerns related to short term ambient temperature shipments, room temperature storage or PCR exceeding 40 cycles.

### PREPARATION OF dNTP MIXES FROM A SET

- Highly concentrated solutions require thorough mixing before the use.
- The optimal dNTP mix shall have equal concentrations of all 4 dNTPs.
- To prepare from a set of 4 dNTPs mixes of common concentrations, follow the guidelines below:

Use same volume of each from four 100 mM dNTP solutions:	PCR Water	Resulting 1 ml Mix concentration:
20 µl	920 µl	2 mM dNTP
25 µl	900 µl	2.5 mM dNTP
100 µl	600 µl	10 mM dNTP
250 µl	-	25 mM dNTP

### PROTOCOL RECOMMENDATIONS FOR STANDARD PCR

- Typical concentration of each dNTP in the reaction is 0.2 – 0.25 mM. Higher concentration increase yields, however Mg<sup>2+</sup> ions bind to dNTPs, therefore, both components shall be present in coordinated concentrations. Too high dNTPs and magnesium concentrations reduce PCR fidelity.
- Mix well each dNTP and magnesium solution, to avoid concentration fluctuations.
- Use final 3 mM MgCl<sub>2</sub> with 0.25 mM each dNTP concentration for routine PCR.

Starting dNTP Mix conc.	Vol. of dNTP mix for 50 µl rxn	Final Mg <sup>2+</sup> conc. in rxn	Vol. of 50 mM MgCl <sub>2</sub> for 50 µl rxn to achieve desired conc.
10 mM	1.25 µl	2 mM	2 µl
25 mM	0.5 µl	3 mM	3 µl

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**ORDERING**  
T: +48 535 774 222  
orders@eprosience.com

**TECHNICAL SUPPORT**  
T: +48 535 774 222  
eprosience@eprosience.com